

Summary of Cancer Incidence and Mortality for Zip Code 29325 (Clinton, SC)

Cancer Incidence in Zip Code 29325

The first step in the analysis of cancer data for zip code 29325 was to look at the number of new cancer cases diagnosed in the zip code and compare this to the number of cancer cases expected (see Table 1). This first step determines if there is anything unusual with cancer patterns in the area. The number of "expected" cancer cases is calculated by using South Carolina cancer rates and applying them to the population of the zip code.

Table 1 shows what types of cancer occurred in zip code 29325 from 1996-2000, and how many cancer cases were expected. Overall, there were fewer cases of cancer than expected. A total of 323 cases of cancer occurred in the zip code, while 400 cases were expected. The most common types of cancer were prostate, female breast, lung, and colorectal cancers. These four types of cancer are also the most common cancers occurring across all of South Carolina.

The analysis did not reveal any specific types of cancer where the number of cases occurring was significantly higher than expected.

Cancer Deaths in Zip Code 29325

To assess cancer deaths in this zip code, cancer mortality data from 1997-2001 were used. This is the most current death data available. The same process used to analyze new cancer cases was also used to analyze cancer deaths. Table 2 shows the number of cancer deaths that occurred and the number expected in the zip code. A total of 191 cancer deaths occurred in this zip code, while 200 deaths were expected. Therefore, fewer cancer deaths occurred than expected.

There was one type of cancer (**prostate**) where the number of cancer deaths was significantly higher than expected. A total of 24 prostate cancer deaths occurred while 14 were expected.

The causes of prostate cancer are not well known, however, researchers have determined a few risk factors that increase a man's chances of developing this disease. Several of these risk factors are related to lifestyle, or what we call "lifestyle risk factors." Some of these lifestyle risk factors include having a diet high in fat and a lack of physical activity. Other risk factors include increasing age and a family history of the disease. Race is another risk factor for prostate cancer, which occurs almost 70% more often in African-Americans as it does in white American men¹.

Unfortunately, increased numbers of prostate cancer deaths is a trend seen not only in this zip code but also across the state. According to national statistics, South Carolina ranks 3rd in the nation in prostate cancer deaths. There are several research studies currently being conducted that are hoping to discover why our state has such a high prostate cancer mortality rate.

Conclusions

To summarize, fewer cancer cases and deaths occurred in zip code 29325 than expected. There was a significant excess of prostate cancer deaths; however, we know that South Carolina has one of the highest prostate cancer mortality rates in the nation.

In order for a true cancer cluster to exist, the number of cancers occurring must be more than would be expected by chance. Along with statistical testing, there are several other criteria that determine whether a true cancer cluster exists. First, a cancer cluster would more likely involve rarer types of cancer, such as brain, rather than more common cancers, like lung or prostate. Also, a cancer cluster would occur with one specific type of cancer rather than having excesses in several different types of cancer.

Taking all these criteria into consideration, there is no evidence of cancer clustering or of cancers resulting from environmental exposures in zip code 29325.

For questions about this report, please contact Laura Sanders at the SC Central Cancer Registry.

Report provided by:

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References

1. American Cancer Society, 2001. www.cancer.org

Information on cancer incidence provided by the SC Central Cancer Registry, Office of Public Health Statistics and Information Services, SC Dept. of Health and Environmental Control.

Information on cancer mortality provided by the Division of Vital Records and the Division of Biostatistics, SC Dept. of Health and Environmental Control.

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Table 1. Analysis of New Cancer Cases in Zip Code 29325, 1996-2000

Site	<u>Observed No. of Cases</u>	<u>Expected No. of Cases</u>	<u>Observed/Expected</u>	<u>Chi-SquareTest*</u>
Prostate	55	62.8	0.88	0.97
Breast (Female)	53	59.4	0.89	0.69
Lung/Bronchus	49	63.1	0.78	3.13
Colon/Rectum	46	48.4	0.95	0.12
Oral/Pharynx	11	11.1	0.99	0.00
Leukemia	10	8.0	1.25	0.49
Non-Hodgkin's Lymphoma	9	13.1	0.69	1.29
Stomach	8	6.8	1.18	0.23
Uterus	7	9.9	0.71	0.85
Ovary	7	6.7	1.04	0.01
Melanoma	5	12.8	0.39	4.75
Pancreas	5	9.6	0.52	2.20
Brain/CNS	5	5.1	0.98	0.00
Esophagus	4	5.4	0.74	0.36
Cervix	4	5.2	0.77	0.28
Bladder	3	16.5	0.18	11.05
Kidney/Renal Pelvis	3	9.8	0.31	4.74
All Sites	323	400.4	0.81	14.96

Excludes in situ cases of cancer to allow for comparison.

Excludes cancer sites with less than 5 cases of cancer expected due to the unreliability of statistical tests based on small numbers.

*The Chi-Square statistical test allows us to determine if the difference between what is observed and what is expected is significant. If the value is greater than 3.84, then we are 95% confident that the observed number of cases is significantly different from the expected number of cases.

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Table 2. Analysis of Cancer Deaths in Zip Code 29325, 1997-2001

<u>Site</u>	<u>Observed No. of Deaths</u>	<u>Expected No. of Deaths</u>	<u>Observed/Expected</u>	<u>Chi-SquareTest*</u>
Lung/Bronchus	55	56.2	0.98	0.02
Prostate	24	13.6	1.76	7.89
Colon/Rectum	14	20.7	0.68	2.15
Breast (Female)	13	14.9	0.87	0.25
Leukemia	12	7.4	1.62	2.85
Pancreas	8	11.2	0.71	0.94
Non-Hodgkin's Lymphoma	6	7.3	0.82	0.25
Stomach	4	5.2	0.77	0.29
Ovary	4	4.8	0.83	0.13
Unknown/III-Defined	10	NA	NA	NA
All Sites	191	200.2	0.95	0.43

NA: Not Available

Excludes cancer sites with less than 5 cancer deaths expected due to the unreliability of statistical tests based on small numbers.

*The Chi-Square statistical test allows us to determine if the difference between what is observed and what is expected is significant. If the value is greater than 3.84, then we are 95% confident that the observed number of deaths is significantly different from the expected number of deaths.

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